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# Registered Nurse Satisfaction and Patient Satisfaction as Predictors of Retention

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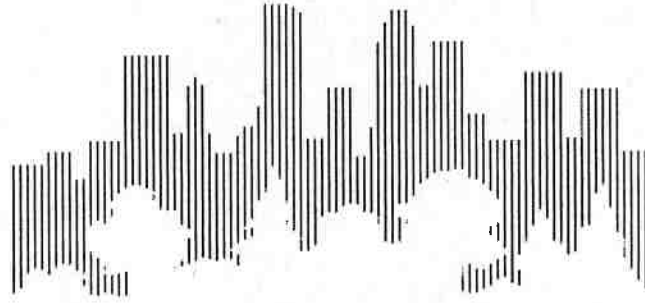
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**C • O • L • L • E • G • E**

**MASTER OF ARTS IN LEADERSHIP  
THESIS**

**Linda Barnhart**

**Registered Nurse Satisfaction and Patient  
Satisfaction as Predictors of Retention**

**2004**

**MAL  
Thesis**

**Thesis  
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**Registered Nurse Satisfaction and Patient Satisfaction  
As Predictors of Retention**

**Linda Barnhart**

**Submitted in partial fulfillment of  
the requirement for the degree of  
Masters of Arts in Leadership**

**AUGSBURG COLLEGE  
MINNEAPOLIS, MINNESOTA**

**2004**

MASTER OF ARTS IN LEADERSHIP  
AUGSBURG COLLEGE  
MINNEAPOLIS, MINNESOTA

**Certificate Of Approval**

This is to certify that the Master's Non-Thesis Project of

**Linda Barnhart**

has been approved by the Review Committee for the Non-Thesis Project  
requirement for the Master of Arts in Leadership degree.

Date Non-Thesis Completed: 6-3-04

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### **Dedication**

This study and paper is dedicated to Peggy Martinson, registered nurse, colleague and friend. Peggy was an extraordinary mentor to me in my earlier years as a registered nurse. She guided me toward a nursing leadership learning pathway. Peggy lost her battle with cancer in the summer of 2003. For her mentoring, I owe her tremendous gratitude.

## **Acknowledgements**

I acknowledge and thank Velma Lashbrook, my adviser, for her honest and forthright critique, her thought-provoking questions, assisting me to discover my talents and strengths, and challenging me to maximize my talents to excellence.

I acknowledge and thank Terri Bowman-Cloyd, my nursing leadership colleague and reader for this paper. Her insight into my readings, learnings and papers throughout my graduate program has been invaluable to me.

I acknowledge and thank my nursing leadership colleagues at the organization where I am employed for their support and encouragement these past four years as I complete my graduate program studies. I especially thank Kathy Kallas, my Chief Nursing Officer for hiring me into this nursing leadership position and believing in my talents and for lighting the spark in me to seek my graduate degree.

I acknowledge and thank Susan Adlis, statistician, who assisted me and mentored me in the statistical methodology and analysis of this study. I could not have completed this study without her.

I acknowledge and thank my family - my husband Jim, my son Ryan, and my daughter Katie - for supporting me and giving me space and time to complete my graduate degree.

I acknowledge and thank all the registered nurses, licensed practical nurses, nursing assistants and other health care workers at the organization where I am employed, that share a portion of their heart and soul every day to provide excellent care to the patients they serve.

Finally, I acknowledge the patients that over the years of my nursing career have touched my heart so deeply. I especially remember a little five year old girl who brought me back to reality as a nurse when she influenced me to put off leaving work on time to help her finish coloring a picture that she could give to her mother before she died. She is a reminder to me of what truly being present means and what great impact each of us has on another person.

## **Abstract**

### **Registered Nurse Satisfaction and Patient Satisfaction As Predictors of Retention**

**Linda Barnhart**

(June 1, 2004)

☐ Thesis

☐ Leadership Application Project

☒ Non-thesis (ML597) Project

Health care leaders are recognizing the importance of registered nurse retention and patient satisfaction to overall organizational performance. Turnover and dissatisfaction of nurses and patients are costly. Exploring data and developing strategies to focus on retaining nurses can create a competitive edge producing exceptional outcomes and service.

This paper examines the association between registered nurse satisfaction and patient satisfaction as predictors of retention for 12 patient care units in one health care organization. Because of the limited sample size and measurement issues, there was no meaningful statistical support for a relationship between nurse satisfaction and patient satisfaction as predictors of retention. However, there were several significant positive relationships among the dimensions of nurse satisfaction.

Results will be shared with nursing leaders to enhance the nursing strategic plan in meeting the challenge of increasing retention during a decade in which more nurses may retire rather than join the workforce. The lessons learned in completing this study are also described to assist others in preparation for future projects.

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## **Registered Nurse Satisfaction and Patient Satisfaction As Predictors of Retention**

### **Introduction: Background of the Problem**

The United States is facing a crisis in healthcare due to a critical shortage of registered nurses that is predicted to worsen over the next decade. According to the American Hospital Association (2001) there were a documented 126,000 vacant nursing positions in hospitals in the United States with turnover of registered nurses averaging 15 percent per year. Fitch Ratings (2003) predicts that there will be a 40 percent increased demand for health care services from 2000 to 2020 with only a six percent growth in the number of registered nurses. With the current registered nurse's average age at 43, more nurses will be retiring from, than entering into the workforce over the next 20 years.

On average, United States corporations lose half their employees in four years and half their customers in five years according to Frederick F. Reichheld (1996). In 2001, the American Hospital Association estimated the cost to the organization of losing one registered nurse to be \$65,000 per year. The cost of losing one customer compounds itself when a dissatisfied customer communicates to seven to ten other individuals or the customer changes to another health care system. Disloyalty stunts corporate performance by 25-40 percent (Reichheld, 1996). It is imperative to try to retain patients and staff in the health care system. Persistent defection by customers and employees can lower growth, profits, and the quality of care for the organization.

The best organizations are those in which there is a strong loyal customer and employee base. Reichheld wrote that there is a cause and effect relationship between customer and employee loyalty and that the best employees want to work for the organizations that deliver superior customer service. He further noted, "Retention is not simply one more operating statistic, it is the central gauge that integrates all the dimensions of a business and measures how well the organization is creating value for its customers" (p. 3).

Behind every satisfied patient is a satisfied employee. Health care organizations are following the approach that other service industries are implementing by focusing on both customer and employee satisfaction to gain a competitive edge. Quality outcomes have become an expectation of patients. Advances in technology have opened up the provider arena to patient choice and competition among health care organizations. For a health care organization to compete successfully for patients as customers, the organization must provide both exceptional service and high quality outcomes. To be on the competitive edge, the health care organization must work toward retaining registered nurses and enhancing the satisfaction of nurses and patients.

## **Literature Review**

### **The Relationship Between Customer and Employee Satisfaction**

There is extensive documentation in the literature supporting a relationship between employee satisfaction and customer satisfaction. Reichheld (1996) noted:

Loyalty leaders like MBNA, Chick-fil-A, State Farm, and Leo Burnett are successful because they have designed their entire business systems around customer loyalty and because they recognized that a company earns customers' loyalty by consistently delivering superior value; because they understand the economic effect of retention on revenues and costs and can therefore intelligently reinvest cash flows to acquire and retain the most valuable customers and employees (p.16).

He further wrote that in industries such as advertising, insurance, and real estate, the companies that prospered financially were those that focused on creating superior value for customers and employees, earning the highest retention rates. These loyalty leaders are committed to creating value for customers, employees and investors by seeking out long-term partnerships with them.

Reichheld has documented several examples of industries outside of health care that have applied the concepts of improving customer satisfaction and employee satisfaction. One example he described is a company that has outperformed all others in its industry. That company is Toyota. The United States automobile industry is an industry that suffers from a lack of loyalty. Only 30 to 40 percent of customers purchase the same make of automobiles when they

make another purchase. Only 20 percent of customers return to the same dealer. Mechanics outside dealerships receive two-thirds of the non-warranty service. The problem is that United States automobile dealers focus on new customers more than current customers. Toyota leaders set out to change that in the United States by setting up a new division, Lexus, which focused on customer loyalty, improving all steps in customer lifestyle. They aimed at a high goal for repurchase rates, 75 percent. They have reached 63 percent so far and are continuing to focus on customer service as the key to their success.

Reichheld noted there are eight key elements that all organizations should focus on in order to retain customers and employees. These include:

- Building a superior customer value proposition
- Finding the right customers
- Earning customer loyalty
- Finding the right employees
- Earning employee loyalty
- Gaining cost advantage through superior performance
- Finding the right investors
- Earning investor loyalty (p. 303-304)

By developing specific strategies to focus on these key eight elements, customer and employee satisfaction can soar.

In summary, industries outside of health care organizations have for several years focused on customer satisfaction and employee satisfaction. Those that focus on employee and customer loyalty have been more successful and

profitable companies. These leaders enter into long-term partnerships with employees and customers on aligning interests of all players in the company.

### **Research in Nursing**

There are numerous studies in the literature addressing registered nurse satisfaction, and some addressing registered nurse satisfaction and intent to leave. No studies were found that focused on patient satisfaction as a predictor of registered nurse retention. Three studies (Ingersol, 2002; Larabee, 2003; Vahey, 2004) are most pertinent to nursing retention and are discussed in some detail.

The first study focusing on nursing retention involved 1,852 registered nurses in a six-county region of New York state from various settings including hospitals, clinics, nursing homes, community health agencies, and schools of nursing. Ingersol (2002) used two instruments to measure job satisfaction, the Organizational Commitment Questionnaire and the Index of Work Satisfaction (IWS). Time frames of one to five year intent to stay response options were included in the surveys. The study concluded that those who intended to stay at the same organization and had higher satisfaction scores were older than 50 years of age; worked in primarily rural areas; had master's degrees; were employed by schools of nursing or homecare agencies; were administrators or educators; and/or specialized in community health, family health, occupational health, or education. These most satisfied and committed nurses plan to retire over the next five years.

In addition, this study found a relationship between favorable work perceptions and increased job satisfaction and organizational commitment. This may suggest there is potential for nurses to accept the need to change work

processes to support the development of a more positive work environment. The authors for this study noted, “No clear pattern emerges when comparing the results of this study to reports of previous investigation” (Ingersol, p. 257). The authors suggested further refinement of the IWS is necessary to explore the meaningfulness of the types of commitment to support organizational goals. They also noted concern that the most satisfied and committed nurses may retire over the next five years leaving less satisfied and less committed nurses. A focus on improving the work environment will be key toward the retention of nurses in the future.

The second study focusing on registered nurse retention is one by Larrabee (2003) in which 90 registered nurses on two medical-surgical, two surgical, and three intensive care units and step down units were surveyed. Several survey instruments were used to measure registered nurse job satisfaction, intent to leave, nurse manager leadership style, unit turbulence, staffing, autonomy and control of practice, nurse/physician collaboration, support services, group cohesion, psychological empowerment, and hardiness. The authors found that registered nurse control of practice and having support services available were predictors of intent to leave. Registered nurses who were satisfied with control of practice and support services received were 2.4 times more likely to indicate no intent to leave than other registered nurses. Those satisfied with the impact they had on their department were 1.8 times more likely to report no intent to leave. The study supports the importance of registered nurse job satisfaction,

particularly in the arena of control of practice and the extent support services are available to assist registered nurses in their work.

The study that focused on both nurse satisfaction and patient satisfaction and the risk of turnover is one by Vahey (2004) in which 820 licensed practical nurses and 621 patients responded to surveys in 1991 on 40 patient care units in 20 urban hospitals across the United States. Survey instruments used were the Nursing Work Index (NWI-R), measuring nurse's work environments, and the Maslach Burnout Inventory (MBI), measuring nurse outcomes and intent to leave. Patient satisfaction was measured using the La Monica-Oberst Patient Satisfaction Scale (LOPSS). With an 86 percent response rate for both nurses and patients, the authors found that patients on units with good work environments in which nurses validated adequate staffing, administrative support, and nurse/physician relationships were two times as likely to report higher patient satisfaction. Those nurses reported lower burnout. In addition, nurses on patient care units with poorer environments were two to three times as likely as the nurses on units with better work environments to exhibit high emotional exhaustion, high depersonalization, and intent to leave in one year or less. In general, the overall burnout among nurses on the patient care units affected patient satisfaction. The study supports that nurse burnout/satisfaction affects patient satisfaction and risk of nurse turnover. The authors suggest that improving the satisfaction of nurses by improving the work environment offer potential to increase patient satisfaction and stabilize the nursing work force. This study reinforces the need for positive



change in the workplace focusing on the outcomes of reducing burnout and turnover and increasing patient satisfaction.

In summary, the review of the literature suggests that registered nurse satisfaction predicts intent to leave. In addition the literature suggests that registered nurse satisfaction is related to patient satisfaction. More studies on registered nurse satisfaction and patient satisfaction as predictors of retention would be helpful to explore strategies to increase registered nurse retention and reduce the registered nurse shortage while entering a decade in which more nurses are predicted to retire than enter the work force. Further, it would be valuable to examine the impact of nurse satisfaction and patient satisfaction on actual turnover rates rather than the indirect measure of intent to leave.

## **Research Purpose and Question**

This section describes the research purpose related to registered nurse turnover, patient satisfaction and registered nurse satisfaction. The research questions are clearly noted.

### **Purpose of the Study**

This study, examines the relationships among registered nurse turnover, patient satisfaction, and registered nurse satisfaction. It explores how well dimensions of registered nurse satisfaction and/or patient satisfaction predict turnover in patient care units at one health care organization.

The site of this study is a licensed 476-bed mid-western community hospital, Hospital Services\* (HS). The Strategic Plan for Nursing at this health care organization is based on the organization's mission, vision and values and strategic plan. The Chief Nursing Officer (2003) noted,

Strategic planning for the future of nursing at HS is a process by which we proactively position nursing to meet the future demands to provide quality nursing care for all patients. The strategic planning process provides the structural framework for analyzing the environment by considering current and future opportunities, creating nursing's purpose or mission, and establishing measurable nursing goals and plans. Critical issues effect what happens inside and outside the organization and key result areas identify in which points one must succeed to accomplish the mission.

The nursing mission, vision and values are defined as follows:

**Mission** - Nursing's mission is to improve the quality of life for our patients, our community and ourselves.

**Vision** - Nursing's vision is to live our values and make them a day-to-day reality.

**Values** - Nursing's values are as follows:

Care - improving outcomes through our presence, accountability and collaboration.

Service - providing care that is skillful and personalized.

Learning - providing an environment that supports education and research.

Joy - appreciating each other and taking pride in our work.

Stewardship - planning and practicing in a manner that is creative and cost-effective.

In order to fulfill the vision, it will take the cooperative work of leaders and staff to focus on all of the organization's values. Nursing at this organization is preparing to complete the application process for Magnet Recognition by the American Nurses Credentialing Center (ANCC), a subsidiary of the American Nurses Association, developed by the Magnet Nursing Services Recognition Program. This is the only nationwide recognition specific to nursing. Organizations must meet quality standards and provide nurses with more responsibilities, autonomy, and opportunities to participate in policy decisions. Understanding the relationship of the satisfaction of staff and patients, as

predictors of turnover, will assist in planning for the future of nursing at this organization in the years to come.

Albert Einstein once said, “Problems in this world today will not be solved by the level of thinking that created them”. Daniel J. Prut (2003), the Dean of Indiana University School of Nursing shared this quote at a recent leadership conference. He stated that if we continually focus on the problem we will always come up with the same answers that we have in the past. Instead, he suggests we focus on an outcome or the desired result. To be creative outcome focusers, not creative problem solvers, we must look at the whole picture and patterns over time. The gaps identified in this study will assist nursing at this organization to determine specific areas/outcomes to focus on to improve registered nurse satisfaction, patient satisfaction, and registered nurse retention as outcomes, not problems.

### **Research Questions**

The research questions for this study are:

- Is there a relationship between registered nurse satisfaction and patient satisfaction? What dimensions of registered nurse satisfaction and patient satisfaction are most positively related to each other?
- Do registered nurse satisfaction and patient satisfaction predict the rate of turnover in patient care units? Does patient satisfaction make a separate contribution, apart from registered nurse satisfaction, to the prediction of registered nurse turnover? What dimensions of registered nurse satisfaction and patient satisfaction best predict turnover in patient care units?

## **Methodology of the Study**

The methodology of the study is described in this section. It describes the study site and sample; the measures related to patient satisfaction, registered nurse satisfaction, and registered nurse turnover; a power analysis; and the statistical methodology.

### **Study Site and Sample**

This research study utilized existing data from three data sources obtained from a licensed 476-bed mid-western community hospital, Hospital Services\* (HS). The data sources and sample included:

- Press-Ganey patient satisfaction survey results for 785 hospitalized HS patients that received care during the third quarter of July, August, and September of 2003.
- Registered nurse satisfaction results from 276 HS registered nurses who were confidentially surveyed in 2003 by the National Center for Nursing Quality.
- Registered nurse turnover data for 2003 collected by Nursing Administration's Data Coordinator at HS for 12 patient care units.

For all three data sources, there are no identifying traits in the data that could be linked to a specific patient or registered nurse. This is a retrospective study of existing data at HS.

The data are aggregated for each patient care unit; rather than using individual data, mean scores for patient and registered nurse satisfaction

dimensions were calculated for each patient care unit. The patient care units included in this analysis are 12 patient care units that provide inpatient care to individuals of all ages. The patient care units included are Medical, Orthopedic, Surgical, Oncology, Neurology, Pediatric, Perinatal, Critical Care, Cardiac Care, Telemetry, Acute Chest Pain Evaluation, and Acute Rehabilitation units. It was determined not to include the Emergency Center, Operating Room or other Surgical Services areas, and outpatient procedural areas, but rather focus on the acute care units in which patient satisfaction questions are similar.

### **Measures**

Three measures are used in this study: patient satisfaction, registered nurse satisfaction, and registered nurse turnover. Each measure is described below.

#### **Patient Satisfaction**

Adult patients age 21 or older completed the patient satisfaction surveys. For child patients under the age of 21, the parent or guardian of a patient was asked to complete the survey. For this study there were a grand total of 2070 surveys distributed to patients discharged from the hospital over a three month period, with 785 returned, indicating a 37.9 percent response rate. Of the 2070 surveys distributed, 2003 of these surveys were distributed to inpatients on 11 of the 12 patient care units in the study, with 744 returned, a 37.1 percent response rate. The 12<sup>th</sup> patient care unit was a specialty unit, in which 67 separate surveys were distributed with similar questions, 41 were returned, indicating a 61.2 percent response rate – the highest of the units.

In this study there were two separate cases in which two units, the Level II nursery and Perinatal unit and the Cardiac unit and the ACEU, report one turnover rate because their staff is combined, whereas their patient satisfaction surveys are completed and reported separately for each unit. In these cases the patient satisfaction measures were combined by weighting the average scores by sample size.

Press Ganey Associates, Inc. processed HS' patient satisfaction data. Press Ganey (2004) provides assistance to improve care within health care organizations by offering:

- Standard and customized surveying tools
- Electronic and manual reporting
- Advanced survey printing, mailing, processing services
- Experience and expertise in quality improvement
- Best practices
- Guidance towards solutions

The organizations provided this service receive the latest research, high quality survey instruments, and technically innovative customer service.

Press Ganey Associates, Inc. was founded in 1985 and is headquartered in South Bend, Indiana. They process nearly eight million completed surveys a year and serve 6,000 health care organizations. The patient satisfaction tool (Appendix B-1) developed by Press Ganey is a survey instrument that includes tested and reliable questions. The Cronbach alpha, the statistic that depicts the level of reliability for the Press Ganey inpatient and rehabilitation survey is 0.98,

indicating high reliability. Its development involved first hand clinical research and focus groups to select questionnaire-based items by the impact on the patients' overall care evaluation. The questions were tested in various hospitals for validity and consistency, arranged in logical order and use a five point Likert scale from "very poor" to "very good". Survey testing included:

- Multiple versions, randomly tested nationwide
- Examined response rates
- Scrutinized patterns of response bias
- Examined means, standard deviation and errors
- Tested for redundancy
- Conducted item analysis
- Dropped items with low total correlation
- Selected items from those with extremely high intercorrelations
- Re-examined reliability coefficients
- Tested for validity of questionnaire
- Tested for predictive validity by means of regression analysis

Press Ganey uses several questions to measure multiple dimensions of satisfaction, displayed in units of 0-100. The level of measurement is sensitive for detecting small changes in satisfaction. Satisfaction scores are given for specific issues, groups of issues and overall means.

While HS uses a comprehensive survey including multiple dimensions, this study uses the overall results for nursing satisfaction, from an eight-item



scale. This scale is most relevant to the study of nursing and includes the following items:

- Time the nurse spent with you
- Friendliness/courtesy of the nurses
- Promptness in responding to the call button
- Nurses' attitude toward your requests
- Amount of attention paid to your special or personal needs
- How well the nurses kept you informed
- Skill of the nurses
- Involvement of you and your family in care planning
- Degree in which you could state your fears, questions, or concerns to the nurse

Press Ganey Associates, Inc. (2004) wrote,

Since the Press Ganey surveys are designed to measure patient satisfaction, we would expect that all of the items in a questionnaire, when taken together, should be consistently related to each other and produce high alpha coefficients as noted below:

- |                       |      |
|-----------------------|------|
| • Inpatient           | 0.98 |
| • Pediatric Inpatient | 0.97 |
| • Rehabilitation      | 0.98 |

The cost and time needed to obtain specific information for the specific reliability from Press Ganey was determined to be too high for the scope of this study.

The survey is sent to homes of patients after discharge from the hospital with a stamped return envelope and a letter requesting the patient or family member complete the survey and return it to Press Ganey. There are no identifying features of the patient unless the patient chooses to write his/her name. Press Ganey randomly selects one third of the patients discharged to send the survey to complete. Press Ganey tabulates the results with mean scores for each question and a percentile ranking for each patient care unit in comparison to other like units among like hospitals. Results are sent to the hospital on a quarterly basis identifying those questions, which received the lowest scores and those receiving the highest scores. Leaders of the hospital then review the mean scores and percentiles ranking using internal benchmarking with other hospital patient care units and external benchmarking provided by Press Ganey. Discussions occur with staff to develop strategies to improve patient satisfaction. Competition is great among hospitals in the Press Ganey database as most receive rankings of providing “good” care. It is the hospitals that consistently receive rankings of “very good” care that are the highest percentile ranked (i.e., in the 90<sup>th</sup> percentile).

#### **Registered Nurse Satisfaction**

The registered nurses surveyed at HS were between the ages of 20 and 75. All registered nurses were asked to complete the web-based nurse satisfaction survey. Of the 892 total number of registered nurses at HS eligible to complete the survey, 413 responded, a 46.3 percent response rate. Of the 413 registered nurses who responded, 276 were from the 12 patient care units involved in this study, 66.8 percent of the total number who responded for HS. The remaining

126 registered nurses who responded were from other departments within HS including the Emergency Center, Operating Room or other Surgical Services areas, and the outpatient procedural areas, that were excluded from the study.

HS' registered nurse satisfaction data used in this study was obtained through the National Center for Nursing Quality (NCNQ, 2004), University of Kansas School of Nursing. Founded in 1997, the mission of the center is "merging science with practice to improve nursing care quality" (NCNQ, 2004). This is supported through information management, research, consultation, and education. The center provides a data repository for acute care hospitals participating in the American Nurses Association National Database of Nursing Quality Indicators (NDNQI). The NCNQ staff facilitates distributing a web-based registered nurse satisfaction survey (Appendix B-5) to hospitals that are members of NCNQ. Registered nurse satisfaction data are collected over a three week period on an annual basis. Registered nurses use a password identifier to sign on to the web site to complete the survey. No individual identifiers are used. The Congress of Nursing Practice Committee for Nursing Practice Information Infrastructure provides oversight and expert consultation regarding the database's design, additional data elements, NCNQ policy issues and other critical considerations.

The 2003 NDNQI registered nurse satisfaction survey results (2003) reflect data from 41,524 registered nurses, representing 2,943 patient care units in 131 hospitals across the United States. The average unit response rate was 62 percent. The report provides scores for the NDNQI-Adapted Index of Work

Satisfaction and NDNQI-Adapted Job Enjoyment Scale, demographic and contextual items. Cronbach alpha estimates of internal consistency reliability for the each of the following satisfaction and job enjoyment subscales/dimensions are well above the commonly accepted standards:

- Task (0.85) – Activities that must be done as a regular part of the job.
- RN/RN Interaction (0.91) – Formal and informal contact among nurses during working hours.
- RN/MD Interaction (0.91) – Formal and informal contact among nurses and physicians during working hours.
- Decision-making (0.85) – Management policies and practices related to decision making.
- Autonomy (0.85) – Amount of independence, initiative, and freedom permitted or required in daily work activities.
- Professional Status (0.81) – Importance or significance of the job, both in nurses' and others' views.
- Pay (0.88) – Cash remuneration and fringe benefits received for work performed.
- Job enjoyment (0.91) – Measure of the degree to which people like their work.

The questions are scored as modified T-scores with those below 40 representing low satisfaction, those 40-60 indicating moderate satisfaction, and those above 60 reflecting high satisfaction.

### **Registered Nurse Turnover**

HS' registered nurse turnover data are reported by nurse managers of each patient care unit to a data coordinator in nursing administration. Turnover is defined as "the number of scheduled staff who leave the organization and transfer off the unit for that month" (Hospital Services, 2003). Because nursing administration leaders consider the medical-surgical patient care units as potential feeders for the critical care areas, the registered nurses who leave the medical-surgical units to work in one of the critical care units are not counted in the turnover data. The turnover data are reported to the Director of Nursing and the Chief Nursing Officer on a quarterly basis, analyzed for trends, and reviewed with staff.

Turnover rates represent the number of regularly scheduled positions of registered nurses who leave divided by the total number of regularly scheduled registered nurse positions in a unit. The primary outcome variable was the registered nurse turnover rate dichotomized into high, units with 15 percent and above, or low, units below 15 percent. The split into high and low turnover was determined by using a median split. As a result there was an even split of 50 percent in which six of the 12 units included in the study were placed in the high turnover category and six were included in the low turnover category. The turnover rate for those classified as high ranged from 16.67 percent to 34.78 percent and those classified as low ranged from 3.33 percent to 10.2 percent.

### **Power Analysis**

A power analysis (Dawson-Saunders, 1990) was conducted to assess the ability of the tests to detect an actual relationship or difference among the variables, if they actually do exist. In this study, the unit of analysis is defined as the care unit, not the individual nurse or patient. Data are aggregated at the care unit and represent 12 patient care units. Thus, assuming  $\alpha = 0.05$ , two-tailed testing, and a sample size of 12; there would be 80 percent power to detect a correlation of 0.735. This suggests that the data require a very high standard for significance.

Patient care units are categorized as high or low turnover rate, with high turnover defined as a turnover rate greater than 15 percent, and low turnover defined as a turnover rate less than or equal to 15 percent. Given that the standard deviation is 10, and assuming  $\alpha = 0.05$ , two-tailed testing, and a sample size of 12, with six high turnover units and six low turnover units, there is 80 percent power to detect a difference of 20 in registered nurse satisfaction between high and low registered nurse turnover rate units.

### **Statistical Methodology**

The independent, explanatory or predictor variables were patient satisfaction and registered nurse satisfaction. The dependent, outcome, or response variable was registered nurse turnover.

Descriptive statistics for all variables were calculated. Frequency distributions were generated for categorical data, while means and standard deviations were calculated for continuous variables.

The correlation coefficients (Dawson-Saunders, 1990), the measurement of the relationship among the dimensions of registered nurse satisfaction and patient satisfaction were calculated to determine if there was an association among the registered nurse satisfaction dimensions and patient satisfaction.

The registered nurse turnover rate was dichotomized using a median split, taking on only one of two values – high or low turnover rate. High turnover was 15 percent or higher and low turnover was below 15 percent. Thus, there were six units in the high turnover group and six units in the low turnover group. The size of the units ranged from 18 beds to 56 beds. To determine if there are significant differences between the high and low turnover groups in registered nurse satisfaction and patient satisfaction, *t*-tests were conducted.

An *ad hoc* step-wise regression analysis was performed, after examining the correlations. The dependent variable was enjoyment of work from the nurse satisfaction survey. The independent variables were the other dimensions of registered nurse satisfaction. While this was not an original research question, the concept of joy at work is an important value for the organization and it would be useful to know what factors are most strongly associated with it.

In summary, the methodology included correlations to determine if there are associations among registered nurse satisfaction and patient satisfaction dimensions. The *t*-tests assessed if there are significant differences between high

and low turnover rate groups on registered nurse satisfaction dimensions and patient satisfaction with nursing. The regression model was done to determine what registered nurse satisfaction dimensions best predicted work enjoyment.



## **Results**

This section reports the results of data analyses to describe the sample and measures, to examine the correlations among variables, to explore the difference between high and low turnover groups, and to determine what variables best predict job enjoyment. The statistical software used in this data analysis is from the SAS Institute.

### **Descriptive Analysis**

The description of the sample and summary of the overall results is provided in Table 1 (Appendix A-1). This summary includes the mean, standard deviation, median, mode and range of the variables as noted.

The mean for the turnover rate was 15.25 percent with the range from 3.33 percent to 34.78 percent and a standard deviation of 9.38. The median for the turnover rate was 13.44 percent. The mode could not be calculated because no two units had the same turnover rate. There are only two variables, RN satisfaction – tasks and pay – in which a mode could be determined due to the limited number of patient care units included in the study and the wide range of scores.

The overall patient satisfaction resulted in a mean of 83.87 with a range of 78.40 to 88.90, a standard deviation of 2.94, and a median of 83.45. Patient satisfaction with nurses was slightly higher with a mean of 87.28, with a range of 79.80 to 92.00, a standard deviation of 3.76, and a median of 87.90. The patient satisfaction scores are generally high with a fairly limited range.

Registered nurse (RN) satisfaction included eight dimensions. One of the eight nursing satisfaction dimensions, tasks, had a mean of less than 40, indicating low satisfaction. There were five of the dimensions that had a mean that registered between 40-60, indicating moderate satisfaction. These included job enjoyment, decision-making, pay, autonomy, and RN/MD interaction. The two dimensions with a mean registering above 60, in the high satisfaction category, were professional satisfaction and RN/RN interaction.

The low satisfaction dimension, tasks, had the lowest mean of 38.17 with a range of 30.32 to 44.58, a standard deviation of 4.83, median of 37.84, and a mode of 42.75. The dimension of decision-making fell in the category of moderate satisfaction with a mean of 41.68 and a range of 35.21 to 46.45, a standard deviation of 3.98, and a median of 42.64. The RN satisfaction dimension of pay revealed a mean 45.64 with a range of 38.35 to 55.38, a standard deviation of 5.14, median at 44.88, and a mode of 40.90. The dimension of autonomy had a mean of 47.76 with a range of 34.93 to 56.20, a standard deviation of 6.59, and a median at 48.45. The dimension of job enjoyment had a mean of 50.53 with a range of 39.16 to 58.78, a standard deviation of 5.11, and a median at 51.90. RN-to-MD (physician) interactions had a mean of 58.79 with a range of 47.39 to 69.16, a standard deviation of 5.34, and a median 58.98. The results for the first dimension in the high satisfaction category, professional satisfaction, revealed a mean of 64.52, with a range of 58.20 to 74.15, a standard deviation of 4.35, and a median at 64.54. The final dimension, RN-to-RN

interactions, had the highest mean of 66.01, a range of 56.96 to 78.49, a standard deviation of 6.31, and a median at 66.72.

### **Correlational Analysis**

Pearson correlation coefficients were used to assess the relationships among the variables in this study. Table 2 (Appendix A-2) reports the correlations and the probability or p-values for relationships among the measures.

As outlined in Table 2 there are only two correlations with p-values of .05 or less between turnover and the patient or registered nurse satisfaction dimensions. The results show that the registered nurses dimensions most related to turnover are the dimensions of RN/MD interactions ( $r=.61$ ,  $p=.03$ ) and professional satisfaction ( $r=.72$ ,  $p=.01$ ). This suggests that, for this sample, the satisfaction with RN/MD interactions and with the nursing profession was positively related to turnover.

Task satisfaction was positively related to autonomy ( $r=.72$ ,  $p=.008$ ) and job enjoyment ( $r=.83$ ,  $p=.0008$ ). RN/RN interactions were positively related to job enjoyment ( $r=.675$ ,  $p=.016$ ). RN/MD interactions were positively related to autonomy ( $r=.64$ ,  $p=.025$ ) and professional satisfaction ( $r=.659$ ,  $p=.02$ ).

Decision-making was positively related to autonomy ( $r=.73$ ,  $p=.007$ ). Autonomy was positively related to tasks ( $r=.72$ ,  $p=.008$ ), RN/MD interactions ( $r=.64$ ,  $p=.025$ ), decision-making ( $r=.73$ ,  $p=.007$ ), and job enjoyment ( $r=.64$ ,  $p=.02$ ).

Professional satisfaction was positively related to RN/MD interactions ( $r=.659$ ,  $p=.02$ ). Pay was not significantly related to any of the other variables. Job enjoyment was positively related to tasks ( $r=.83$ ,  $p=.0008$ ), RN/RN interactions

( $r=.675$ ,  $p=0.016$ ), and autonomy ( $r=.64$ ,  $p=.02$ ). There is a high, positive correlation between the overall patient satisfaction and patient satisfaction with nursing ( $r=.87$ ,  $p=.0003$ ). Neither turnover nor dimensions of nursing satisfaction were significantly related to patient satisfaction.

### **Analysis of Differences Between High and Low Turnover Groups**

Table 3 (Appendix A-3) reports the *t*-test results for differences between high and low turnover groups in terms of RN satisfaction and patient satisfaction variables. Only one dimension, pay, is significant ( $p=.0291$ ). The higher turnover group (Mean = 48.73) was more satisfied with pay than the low turnover group (Mean=42.56).

### **Post Hoc Stepwise Regression Analysis for Job Enjoyment**

Table 4 (Appendix A-3) displays the *post hoc* analysis that resulted from the analysis of the nursing satisfaction variables. Based on the findings of the correlation analysis and the importance of joy at HS, a stepwise regression analysis was conducted to determine what variables best predict joy. A stepwise regression analysis tests each variable to determine if the variable is a significant predictor and to find a model that best predicts the dependent variable (i.e., joy).

The best predictive model included two variables: tasks ( $p=.0021$ ) and RN/RN interactions ( $p=.0316$ ). The *post-hoc* analysis revealed that these are the most important variables in predicting job enjoyment. The step-wise regression model had a R-square of 0.8203, indicating that 82 percent of the variance in job enjoyment is explained by the two variables of tasks and RN/RN interactions.

## **Limitations and Discussion**

This section describes the limitations of the study and discusses the study questions related to patient satisfaction, registered nurse satisfaction and turnover. It also highlights lessons learned about conducting research.

### **Limitations**

There were several limitations in this study related to the patient satisfaction, registered nurse satisfaction, and registered nurse turnover data and sample size. Limitations in the patient satisfaction data include slightly different questions for specialty units in comparison to the rest of the patient care units. The overall response rate for the hospital is only 37.9 percent, with the inpatient units at 37.1 percent and the specialty units having a higher response rate of 61.2 percent. The patient satisfaction data also had a very narrow range of scores (78.40-92.00), which reduces the ability of this measure to discern differences in satisfaction.

There were also limitations in the registered nurse satisfaction data. The response rate for all hospitals surveyed was 62 percent, whereas the response rate for HS was 46.3 percent. In order to encourage staff to use computers, HS nurse leaders only allowed the surveys to be completed on-line. Since HS had recently provided all staff with email addresses and many registered nurses were not comfortable with using the Internet, this may have limited the response rate.

For the second year, a hospital staff satisfaction paper survey was administered shortly after the registered nurse satisfaction survey. Even though the two satisfaction surveys measure different issues, the nurses have expressed

displeasure in completing two separate surveys so close together in time. This, too, may have limited the response rate and raises concerns about the representativeness of registered nurse satisfaction data.

The HS turnover data also has limitations. The data are provided by each nurse manager of the patient care unit and reported to a data coordinator through a voluntary reporting process. Errors in reporting may have occurred. As collected, the data do not differentiate voluntary and involuntary turnover or transfers and those leaving the organization entirely. While voluntary turnover out of the organization is a concern and may be caused by dissatisfaction, that is not as true for involuntary turnover or transfers. In addition, the turnover data were affected by a significant change of patient population for three patient care units. These units were the cardiac/telemetry areas. Midway through the year an Acute Chest Pain Evaluation Unit (ACEU) was created in one of these three units. In order to staff the ACEU with experienced cardiac trained registered nurses, the nurse manager requested staff from the other two cardiac/telemetry units temporarily work in the ACEU. These registered nurses that were temporarily placed on this unit, liked working there so much that many of them took permanent positions on the unit which may have had an impact on increasing the turnover rate and the registered nurse satisfaction scores for those units.

Another factor that may have influenced the data is that the nursing leadership at HS does not count transfers to the critical care areas from the medical-surgical areas in the turnover data because the medical-surgical areas are

considered feeders for critical care. This may have deflated the turnover data for the medical-surgical areas and influenced the results.

A change in management structure on two of the units also may have had an impact on all data. In September, around the same time as the data was collected, the nurse manager of the Acute Rehabilitation unit and the Neurology unit resigned and an interim manager was appointed for each of the units. The units are located on the same floor, but it was determined that, in order to provide a stronger focus on staff and customer satisfaction and lower the number of staff a nurse manager is accountable for, two separate nurse managers were hired.

Another factor that may have influenced data is that the critical care units are areas that registered nurses who are planning to move into the nurse anesthesia field are required to work in order to gain critical care nursing experience before applying to anesthesia programs. These nurses are ones who are autonomous and assertive, a necessary trait in critical situations. Also, there were more attractive positions, straight days or no weekend shifts, which opened in other departments that influenced these nurses to transfer off of their unit.

The final limitation of data is the inability to explore the function of the patient care unit or the patient population. Each unit has a different patient population and the data collected were not contrasted to data for units that have similar patient populations.

## **Discussion**

This study has significant implications for HS practices and for future research. This section provides a discussion around the study questions and

describes the implications related to patient satisfaction, registered nurse satisfaction, and registered nurse retention. The section concludes with a description of the lessons I have learned in the field of research.

### **Discussion of Study Questions**

Is there a relationship between registered nurse satisfaction and patient satisfaction? This study showed that the results obtained were not significant. There were no significant correlations found between registered nurse satisfaction dimensions and patient satisfaction. Future research with a larger sample and better response rate is necessary to determine if there is a relationship. It may also be necessary to use a better (i.e., more discriminating) measure of patient satisfaction.

It is argued by many that patients are most satisfied overall when they are satisfied with their nursing care. In this study, there was a significant, positive correlation between the overall patient satisfaction and the patient satisfaction with nursing. This may indicate that the patient's satisfaction with nursing drives overall patient satisfaction.

It is also critical to improve the measures of turnover to distinguish voluntary and involuntary turnover. Within voluntary turnover, it is important to differentiate transfers within HS from those that depart the organization entirely. Of greatest concern are those nurses who choose to leave the organization.

What dimensions of registered nurse satisfaction and patient satisfaction are most positively related to each other? There were no dimensions of registered nurse satisfaction and patient satisfaction that were significantly related to each



other. The limited sample size, response rates, and limited range for patient satisfaction may have affected this result.

It was found when reviewing the data that the dimensions of registered nurse satisfaction that are most positively related to each other are autonomy with tasks, RN/MD interactions, decision-making, and job enjoyment. Job enjoyment was strongly related to tasks, RN/RN interactions, and autonomy. The *post hoc* analysis indicated that the dimensions of tasks and RN/RN interactions are the most predictive of job enjoyment with 82 percent of the variance in job enjoyment explained by these two variables. This is an interesting finding and may support HS exploring these two factors in depth to develop strategies to increase the joy in the workplace, one of the values of HS and the nursing department that is outlined in the strategic plan.

Do registered nurse satisfaction and patient satisfaction predict the rate of turnover in patient care units? This study provided surprising results in which the statistical analysis showed a strong correlation between nurse satisfaction and turnover, but again, the low sample size and measure of turnover may affect these results. The patient care units with the higher turnover were critical care and cardiac areas, but they also have the higher registered nurse satisfaction. There are several explanations for this surprising finding. These types of registered nurses are ones that tend to be extremely autonomous, highly trained technically with strong critical thinking skills, required to make quick and accurate decisions, rely on the expertise of their colleagues in crisis situations, and have more direct interactions with physicians. They work in these areas for the challenge and that

may drive their satisfaction. It does not prohibit them from exploring other options that may provide an increased challenge to them. In addition, not all turnover is bad. In some cases and on some patient care units, it is necessary to have turnover to bring in new ideas and enthusiasm to the unit. This may be true in some of these units.

Although this study reveals that high nurse satisfaction and high turnover are related, this does not dispel or disprove the studies previously completed by nurse leaders and the work of Reichheld who have noted that leaders who focus on employee and customer loyalty have more successful and profitable companies. It remains the belief of this writer that for HS to compete successfully for patients as customers, the organization must provide both exceptional service and high quality outcomes. To be on the competitive edge, HS must work toward high registered nurse retention, registered nurse satisfaction and patient satisfaction.

Does patient satisfaction make a separate contribution, apart from registered nurse satisfaction, to the prediction of registered nurse turnover? This study showed no significant correlation between patient satisfaction and registered nurse turnover. As mentioned earlier, it would be necessary to separate out patient care units and increase the sample size and response rates in order to explore this further. It may also be necessary to use different measures of patient satisfaction and turnover.

What dimensions of registered nurse satisfaction and patient satisfaction best predict turnover in patient care units? The dimensions of registered nurse

satisfaction that best predict turnover are RN/MD interaction and professional satisfaction. The areas with the higher turnover and higher registered nurse satisfaction were the critical care areas in which RN/MD interaction is essential in the care of the critically ill patient and are registered nurses with a high sense of professional satisfaction.

### **Patient Satisfaction**

Measuring and improving patient satisfaction has become a primary focus of hospital leaders at HS. Excellent patient outcomes and clinical care are primary goals, but do not necessarily ensure patients are very satisfied with the care they receive. According to Press Ganey Associates, Inc. (Scalise, 2004) “The complex interaction of several elements, including care processes, interaction with caregivers and patient’s own expectations determine whether patients are satisfied or dissatisfied with care” (p.60). It is this conceptualization of patient satisfaction that hospital leaders must explore for their organizations in order to understand what it will take to improve patient satisfaction within the organization.

The exploration of the conceptualization of patient satisfaction within the organization begins by assessing the culture of the organization. In order to improve patient satisfaction, all departments must make patient communication and interpersonal communication a top priority at all times. This then becomes part of the organization’s culture. Press Ganey Associates, Inc. (Scalise, 2004) has identified that there are four core elements to building this culture. These core elements included:

- Organizational and leadership commitment to patient satisfaction
- Allocating financial resources
- Investing in information technology
- Employee recognition and engagement (p. 60-61)

It is paramount that leaders of organizations make a strong purposeful commitment to patient satisfaction. Leaders such as the Chief Executive Officer must be visible to staff by walking around the organization and talking with staff. In addition, leaders must use a tool to measure how people and services are perceived. Very clear patient satisfaction goals for the organization must be set. These goals should be goals the organization can stretch to. Finally, leadership has to share patient satisfaction data with all staff and involve them in developing action plans to improve.

Allocating financial resources is essential to improving patient satisfaction. Even small amounts of dollars can assist to correct mistakes or reward employees who meet or exceed patient satisfaction goals. Recognizing and rewarding staff increases staff satisfaction and can result in increased patient satisfaction.

Information technology is an area that is rapidly growing. To improve patient satisfaction, the organization must focus on streamlining processes such as admitting, registration, medication administration, and other processes enhancing care and service to patients. Hospitals must keep current with information technology to have a competitive edge with patient satisfaction.

Finally, recognizing employees for their part in improving patient satisfaction is essential. This includes providing clear customer service guidelines, sharing with staff positive comments received from patients, posting patient satisfaction scores, and offering frequent employee recognition rewards.

Utilizing a tool such as the Press Ganey patient satisfaction survey to measure patient satisfaction and developing a plan to improve patient satisfaction pays off for the hospital in several ways. Malone wrote that data obtained from Press Ganey which included 1,358 hospitals in the database noted that the hospitals with the higher patient satisfaction scores are the most profitable with the least profitable hospitals in the bottom third of the satisfaction scores, and the most profitable in the top third (2002). When patients are satisfied with their care the organization is positively affected.

Measuring patient satisfaction is different than measuring consumer satisfaction. Research that Newsome and Wright (1999) noted revealed there are complex processes and unclear outcomes that are unique to health care organizations when challenges focus on patient satisfaction. Consumer satisfaction balances between expectations and perceptions. Patient expectations and perceptions are not so simply linked. In general, the patient expects the physician or the nurse to be the experts and to know what is best when making health care decisions. In addition, consumers accept a certain amount of variance in service. Patients use different criteria when their situation is life threatening rather than routine health care. Thirdly, consumers can easily evaluate the quality of service whereas the patient cannot fully evaluate the quality because health

care is a highly technical field. As a result the patient focuses on such things as courtesy, time waiting, the quality of food as measurements of service. Finally, consumers broadly judge quality as responsiveness and reliability whereas patients have more complex quality issues to judge, such as unclear medical outcomes.

Focusing on improving customer service is essential to improving patient satisfaction in health care organizations. Improving registered nurse satisfaction has a relationship with improving patient satisfaction. M.P. Malone (2002) wrote how Press Ganey analyzed over 1.6 million patient surveys to determine what patient concerns were most highly correlated with overall patient satisfaction. These concerns were mostly interpersonal related. They included questions such as:

- How well the nurses kept you informed
- Staff effort to include you in decisions regarding your treatment
- How well staff worked together to care for you
- Nurse's attitude toward your requests
- Friendliness and courtesy of nurses

In summary, hospital leaders are recognizing the value of measuring patient satisfaction in health care organizations. Higher patient satisfaction is linked to profitability and higher employee satisfaction. Utilizing patient satisfaction tools such as Press Ganey's tool to compare patient satisfaction scores is a strategy that hospitals are using to gain a competitive edge in health care. By being visible and actively exploring the culture at HS, leaders can work

collaboratively with staff to develop strategies to improve patient satisfaction that consistently place HS in the 90<sup>th</sup> percentile. A future study which would include all patient care areas of the Press Ganey patient satisfaction results in comparison with the registered nurse satisfaction and turnover at HS could help the organizational leaders to analyze the HS existing data to determine if there are relationships among these dimensions. This could open the door to understanding how strategies could be developed around the values of the organization – joy, stewardship, service, care, and learning – to meet the mission and vision of HS nursing by improving the quality of life for our patients, our community and ourselves and living the values and by making them a day-to-day reality.

### **Registered Nurse Satisfaction**

The perceptions of patients are dominated by the interpersonal relationship with registered nurses and other health care workers. To deliver a high level of service, registered nurses must consistently display excellent interpersonal skills with patients. It makes logical sense that a registered nurse highly satisfied in his/her work and environment has more positive interactions with patients. Measuring registered nurse satisfaction is key to assessing the culture of the organization. Assessing this culture, and determining areas to improve registered nurse satisfaction are key to improving patient satisfaction.

The NCNQ focuses on how enjoyable registered nurses find their work is and how satisfied they are in their work environment. Health care organization leaders can use the results to identify where improvement is needed. Through careful analysis of registered nurse satisfaction survey results, barriers to

providing excellent care and service can be identified and the work toward breaking down these barriers can begin.

In summary, focusing on registered nurse satisfaction is important to creating a patient-centered environment where excellent patient service is delivered. In order for registered nurses to respond to patient identified needs and concerns and increase patient satisfaction they must display positive interpersonal relationships with patients. Patient perception is impacted by interpersonal relationships. The registered nurse is the health care worker that has great impact on this service, providing nursing care 24 hours per day, seven days per week.

### **Registered Nurse Turnover**

Measuring, assessing, and developing plans to reduce registered nurse turnover and retention is a current primary focus of most nursing administration leaders in the United States. The nursing shortage is a real problem and expected to worsen as more registered nurses retire over the next 20 years. Hospital leaders face a nursing shortage that threatens their ability to ensure enough registered nurses will be available to keep hospital beds in service. With a 15 percent registered nurse turnover rate and a 13 percent vacancy rate in hospitals (American Hospital Association, 2001) nurse leaders are asking questions to explore the concerns of nurses that make them consider leaving their current positions and organizations. Nurses state satisfaction in their work environments, strong manager support, and acceptable nurse to patient ratios are key to retention (Cline, 2002). HS nursing leaders must explore what it will take to reduce turnover and increase retention in their organization.



Nursing's strategic plan (Chief Nursing Officer, 2003) focuses on staff satisfaction and increasing retention, as strategies to address the shortage of nurses for the future. HS Nurse Managers have worked with Human Resources and Administration to provide increased tuition and education reimbursement, increased autonomy and decision making, improved salaries, increased connectivity between nurse managers and nursing administration leaders and staff and improvements within the work environment. These strategies have been instrumental in reducing turnover the past few years. The registered nurse turnover for all the patient care units at HS peaked at 23.11 percent in 2000, reduced to 15.85 percent in 2001, 13.51 percent in 2002, and 11.73 percent in 2003 (Hospital Services, 2003).

This downward trend with turnover is excellent, but with 48 being the average age of registered nurses in the organization, nursing leaders anticipate that over 222 FTE's may need to be replaced by the year 2010 due to either reaching the age of 65 or the rule of 85. Since the average full time equivalents for registered nurses is 0.6 or 48 hours per pay period this means recruiting, hiring and orienting over 350 nurses to replace highly skilled registered nurses in specialty departments (Chief Nursing Officer, 2003). This is an overwhelming challenge for the organization. Future recruitment and retention strategies to explore may include providing ongoing clinical education, offering a new graduate nurse residency program, and involving more staff nurses in clinical research. Recruiting and retaining registered nurses is an essential goal that HS must achieve in order to remain viable and competitive in the health care market.

Registered nurse turnover is a key focus of nurse leaders and it will continue to be a top priority for years to come. A focus on retention of registered nurses is essential to ensure patients receive the nursing care required to meet quality outcomes. Additional research in the area of recruitment, retention and improving the work environment at HS would be beneficial to support HS nurse leaders to enhance nursing's strategic plan to meet the challenge of losing a significant number of registered nurses over the next few years.

### **Lessons Learned in the Field of Research**

Never having completed a research study, I entered into this project quite naïvely. Throughout my four years studying in the Masters of Arts in Leadership program at Augsburg College, I looked forward to completing a final project that would enhance leadership in the area of my passion, nursing. I knew I would need to commit a significant amount of time to this project, but I underestimated the amount of time required to gain IRB approval at Augsburg and HS and complete a research study. Thinking I had started early enough I applied for IRB approval at Augsburg in November preceding my May target completion date. I learned that applying to the IRB for approval to perform a study is not always as clear as it may seem. I also learned that even though I was using aggregate data for my study that the study needed to be approved by the HS Protocol Review Committee. Again, that took time, and several revisions for a proposal to the committee.

I was fortunate to follow the advice of my advisor to contact the statistician at HS to request assistance in entering the statistical data into the SAS

software and provide assistance to my analysis. This was invaluable and I highly recommend anyone completing a study to take the time to do that. It saved me time in the end.

I also learned that field research is not easy. Even with existing data it is imperative to have an educational foundation in statistical analysis. A stronger class in statistical methods would have been valuable for me to understand correlations, probability, and regression models. Along with this, sample size is key in field research. If the sample is not large enough, it is difficult to find significant correlations. With the amount of time and effort placed in this study, it is frustrating to me to find few significant correlations.

Field research does not end with one study. Even a study, with a small sample size can assist a researcher to learn about a particular subject. My greatest learning is that data are not perfect and I cannot expect it to be. But through appropriate sample size, even less than perfect data can assist a researcher in solving a study question.

Finally, this is only one small research study that may be an avenue for nursing at HS to explore further the relationship of patient satisfaction, employee satisfaction and retention. By being an organization that focuses on outcomes rather than problems, the leaders at HS can work with employees to understand the variables and work in concert to organize strategies to improve patient satisfaction, employee satisfaction and retention.

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- \* Hospital Services is used in lieu of the actual organization to protect confidentiality.

## Appendix A: Tables

**Table 1. Descriptive Statistics – All Measures and All Units (N = 12)**

<b>Variable</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Median</b>	<b>Mode</b>	<b>Range</b>
Turnover rate	15.25	9.38	13.44	---	3.33, 34.78
Overall Patient Satisfaction	83.87	2.94	83.45	---	78.40, 88.90
Patient Satisfaction with Nurses	87.28	3.76	87.90	---	79.80, 92.00
RN Satisfaction: Tasks	38.17	4.83	37.84	42.75	30.32, 44.58
RN Satisfaction: RN – RN Interactions	66.01	6.31	66.72	---	56.96, 78.49
RN Satisfaction: RN – MD Interactions	58.79	5.34	58.98	---	47.39, 69.16
RN Satisfaction: Decision Making	41.68	3.98	42.64	---	35.21, 46.45
RN Satisfaction: Autonomy	47.76	6.59	48.45	---	34.93, 56.20
RN Satisfaction: Professional Satisfaction	64.52	4.35	64.54	---	58.20, 74.15
RN Satisfaction: Pay	45.64	5.14	44.88	40.90	38.35, 55.38
RN Satisfaction: Job Enjoyment	50.53	5.11	51.90	---	39.16, 58.78

**Table 2. Correlations Among Turnover And Satisfaction Variables**

[illegible]

**Table 3. *t*-Test Results for High and Low Turnover Groups**

Variable	High Turnover (>15%)	Low Turnover (≤ 15%)	p-value
(Overall patient satisfaction)	84.65 (2.68)	83.08 (3.22)	0.3806
(Overall satisfaction with nurses)	87.73 (2.48)	86.83 (4.94)	0.6984
(Tasks)	38.56 (5.22)	37.78 (4.86)	0.7943
(RN /RN interactions)	66.70 (7.33)	65.33 (5.72)	0.7260
(RN /MD interactions)	60.39 (5.63)	57.18 (4.98)	0.3208
(Decision making)	43.06 (3.42)	40.30 (4.32)	0.2489
(Autonomy)	50.02 (7.15)	45.51 (5.67)	0.2556
(Professional satisfaction)	66.80 (3.84)	62.24 (3.80)	0.0656
(Pay)	48.73 (4.28)	42.56 (4.12)	0.0291*
(Job enjoyment)	51.83 (4.83)	49.22 (5.47)	0.4018

**Table 4. Stepwise Regression Analysis for Job Enjoyment**

Stepwise Selection				
Step	Variable Entered/ Removed	Label	Number of Var.	Partial R-Square
1	TUTA	RN SATISFACTION: TASKS	1	0.6912
2	TUNN	RN SATISFACTION: RN/RN INTERACTIONS	2	0.1291
Summary of Stepwise Selection				
		Model		
Step	R-Square	C(p)	F Value	Pr > F
1	0.6912	0.1046	22.38	0.0008
2	0.8203	-1.2833	6.46	0.0316

## Appendix B: Survey Tools

### Press Ganey Patient Satisfaction Survey

#### INPATIENT SURVEY

We thank you in advance for completing this questionnaire. When you have finished, please mail it in the enclosed envelope.

Please rate your visit in our:

#### BACKGROUND QUESTIONS (write in answer or fill in circle (for example ☐ or appropriate date)

1. Was this your first stay here? ☐ Yes ☐ No
2. Were you admitted through the Emergency Department?..... ☐ Yes ☐ No
3. Was your admission unexpected?..... ☐ Yes ☐ No
4. Did you have a roommate? ... ☐ Yes ☐ No
5. Were you placed on a special or restricted diet during most of your stay? ..... ☐ Yes ☐ No
6. Did someone explain your extended life support (e.g., living will, advance directives, etc.) options? ..... ☐ Yes ☐ No
7. Did someone give you information about organ donation?..... ☐ Yes ☐ No
8. Did someone give you information about the Patient's Bill of Rights?..... ☐ Yes ☐ No
9. Were you in the Intensive Care Unit? (ICU or 2N) ..... ☐ Yes ☐ No
10. Were you in the Coronary Care Unit? (CCU or 3N)..... ☐ Yes ☐ No
11. Main source of payment for hospital stay: (fill in one circle only)
  - ☐ Private Insurance (Commercial, Blue Cross/Blue Shield, HealthPartners, Medica Choice, Choice Plus)
  - ☐ Medicare
  - ☐ Medicaid
  - ☐ Worker's Compensation
  - ☐ Self-Pay
12. Room number..... 

--	--	--	--
13. Number of days in hospital .. 

--	--	--

 days
14. Date of discharge:
 

	/		/			
month		day		year		
15. When you left the hospital did you go:
  - ☐ Home
  - ☐ To a nursing home
  - ☐ Other
16. Patient's sex..... ☐ Male ☐ Female
17. Patient's age ..... 

--	--	--

 years
18. Compared to others your age, how would you typically describe your health? (circle one number)
 

very poor	poor	fair	good	very good
1	2	3	4	5
19. Are you a diabetic?..... ☐ Yes ☐ No

**INSTRUCTIONS:** Please rate the services you received from our facility. Circle the number that best describes your experience. If a question does not apply to you, please skip to the next question. Space is provided for you to comment on good or bad things that may have happened to you.

### A. ADMISSION

- |  | very<br>poor | poor | fair | good | very<br>good |
|--|--------------|------|------|------|--------------|
| 1. Speed of admission process.....               | 1            | 2    | 3    | 4    | 5            |
| 2. Courtesy of the person who admitted you ..... | 1            | 2    | 3    | 4    | 5            |
| 3. Rating of pre-admission process (if any)..... | 1            | 2    | 3    | 4    | 5            |

Comments (describe good or bad experience): \_\_\_\_\_

### B. ROOM

- |   | very<br>poor | poor | fair | good | very<br>good |
|---|--------------|------|------|------|--------------|
| 1. Pleasantness of room decor.....                                  | 1            | 2    | 3    | 4    | 5            |
| 2. Room cleanliness.....  | 1            | 2    | 3    | 4    | 5            |
| 3. Courtesy of the person who cleaned your room .....               | 1            | 2    | 3    | 4    | 5            |
| 4. Room temperature.....  | 1            | 2    | 3    | 4    | 5            |
| 5. Noise level in and around room.....                              | 1            | 2    | 3    | 4    | 5            |
| 6. How well things worked (TV, call button, lights, bed, etc.)..... | 1            | 2    | 3    | 4    | 5            |

Comments (describe good or bad experience): \_\_\_\_\_

### C. MEALS

- |   | very<br>poor | poor | fair | good | very<br>good |
|---|--------------|------|------|------|--------------|
| 1. If you were placed on a special/restricted diet, how well it was explained ..... | 1            | 2    | 3    | 4    | 5            |
| 2. Temperature of the food (cold foods cold, hot foods hot) .....                   | 1            | 2    | 3    | 4    | 5            |
| 3. Quality of the food .....  | 1            | 2    | 3    | 4    | 5            |
| 4. Courtesy of the person who served your food .....                                | 1            | 2    | 3    | 4    | 5            |

Comments (describe good or bad experience): \_\_\_\_\_

### D. NURSES

- |  | very<br>poor | poor | fair | good | very<br>good |
|--|--------------|------|------|------|--------------|
| 1. Time the nurse spent with you .....   | 1            | 2    | 3    | 4    | 5            |
| 2. Friendliness/courtesy of the nurses .....   | 1            | 2    | 3    | 4    | 5            |
| 3. Promptness in responding to the call button.....                                    | 1            | 2    | 3    | 4    | 5            |
| 4. Nurses' attitude toward your requests .....   | 1            | 2    | 3    | 4    | 5            |
| 5. Amount of attention paid to your special or personal needs .....                    | 1            | 2    | 3    | 4    | 5            |
| 6. How well the nurses kept you informed .....   | 1            | 2    | 3    | 4    | 5            |
| 7. Skill of the nurses.....  | 1            | 2    | 3    | 4    | 5            |
| 8. Involvement of you and your family in care planning .....                           | 1            | 2    | 3    | 4    | 5            |
| 9. Degree to which you could state your fears, questions or concerns to the nurse..... | 1            | 2    | 3    | 4    | 5            |

Comments (describe good or bad experience): \_\_\_\_\_

E. ICU/CCU	very poor	poor	fair	good	very good
1. Friendliness/Courtesy of ICU/CCU nurses .....	1	2	3	4	5
2. How well ICU/CCU nurse helped you understand your treatment, tests, and condition.....	1	2	3	4	5
3. Information given to your family while you were in ICU/CCU .....	1	2	3	4	5
4. Sensitivity and responsiveness of ICU/CCU Nurses.....	1	2	3	4	5
5. ICU/CCU nurses' sensitivity and responsiveness to your pain .....	1	2	3	4	5

Comments (describe good or bad experience): \_\_\_\_\_

F. TESTS AND TREATMENTS	very poor	poor	fair	good	very good
1. Waiting time for tests or treatments.....	1	2	3	4	5
2. Concern shown for your comfort during tests or treatments .....	1	2	3	4	5
3. Explanations about what would happen during tests or treatments .....	1	2	3	4	5
4. Skill of the person who took your blood (e.g., did it quickly, with minimal pain) .....	1	2	3	4	5
5. Courtesy of the person who took your blood .....	1	2	3	4	5
6. Skill of the person who started the IV (e.g., did it quickly, with minimal pain) ....	1	2	3	4	5
7. Courtesy of the person who started the IV.....	1	2	3	4	5
8. Skill of X-ray technologist.....	1	2	3	4	5
9. Courtesy of X-ray technologist .....	1	2	3	4	5
10. Friendliness of radiologist .....	1	2	3	4	5
11. Your rating of respiratory care (if you received it) .....	1	2	3	4	5
12. Your rating of Physical Therapy/Occupational Therapy/Speech Therapy (if you received it) .....	1	2	3	4	5

Comments (describe good or bad experience): \_\_\_\_\_

G. VISITORS AND FAMILY	very poor	poor	fair	good	very good
1. Helpfulness of the people at the information desk .....	1	2	3	4	5
2. Accommodations and comfort for visitors .....	1	2	3	4	5
3. Staff attitude toward your visitors .....	1	2	3	4	5
4. Information given to your family about your condition and treatment.....	1	2	3	4	5

Comments (describe good or bad experience): \_\_\_\_\_

H. PHYSICIAN	very poor	poor	fair	good	very good
1. Time physician spent with you.....	1	2	3	4	5
2. Physician's concern for your questions and worries .....	1	2	3	4	5
3. How well physician kept you informed .....	1	2	3	4	5

H. PHYSICIAN (continued)	very poor	poor	fair	good	very good
4. Friendliness/courtesy of physician.....	1	2	3	4	5
5. Skill of physician.....	1	2	3	4	5
6. Degree to which you could state your fears, questions or concerns to the physician.....	1	2	3	4	5

Comments (describe good or bad experience): \_\_\_\_\_

I. DISCHARGE	very poor	poor	fair	good	very good
1. Extent to which you felt ready to be discharged.....	1	2	3	4	5
2. Speed of discharge process after you were told you could go home.....	1	2	3	4	5
3. Instructions given about how to care for yourself at home.....	1	2	3	4	5
4. Help with arranging home care services (if needed).....	1	2	3	4	5
5. Patient education materials you were given.....	1	2	3	4	5

Comments (describe good or bad experience): \_\_\_\_\_

J. PERSONAL ISSUES	very poor	poor	fair	good	very good
1. Staff concern for your privacy.....	1	2	3	4	5
2. Staff sensitivity to the inconvenience that health problems and hospitalization can cause.....	1	2	3	4	5
3. How well your pain was controlled.....	1	2	3	4	5
4. Degree to which hospital staff addressed your emotional/spiritual needs.....	1	2	3	4	5
5. Response to concerns/complaints made during your stay.....	1	2	3	4	5
6. Staff effort to include you in decisions about your treatment.....	1	2	3	4	5

Comments (describe good or bad experience): \_\_\_\_\_

K. OVERALL ASSESSMENT	very poor	poor	fair	good	very good
1. Overall cheerfulness of the hospital.....	1	2	3	4	5
2. How well staff worked together to care for you.....	1	2	3	4	5
3. Overall appearance of facility.....	1	2	3	4	5
4. Likelihood of your recommending this hospital to others.....	1	2	3	4	5
5. Overall rating of care given at hospital.....	1	2	3	4	5

Comments (describe good or bad experience): \_\_\_\_\_

Patient's Name: (optional) \_\_\_\_\_

Telephone Number: (optional) \_\_\_\_\_



## NDNQI Registered Nurse Satisfaction Survey Tool



NATIONAL DATABASE OF NURSING QUALITY INDICATORS

### NDNQI RN Satisfaction Survey and Scoring Guide, 2003

The 2003 survey is presented in five sections. **Part I** contains 8 items selected to represent the subscales of the NDNQI-Adapted Index of Work Satisfaction and the Job Enjoyment Scale. These 8 items, phrased at the individual level, were added in response to participants' concern that their individual feelings were not being considered. **Parts II and III** are measured at the work group, or unit level, just as other indicators included in the NDNQI are measured at the patient care unit level. **Part II** is the NDNQI adaptation of Stamps' (1997) *Index of Work Satisfaction* (adapted with permission of Dr. Paula Stamps). The *Index* contains seven subscales: *Task*, *Nurse-Nurse Interactions*, *Nurse-Physician Interactions*, *Decision-Making*, *Autonomy*, *Professional Status*, and *Pay*. **Part III** is the *Job Enjoyment Scale*, which is comprised of 7 items extracted from the Brayfield and Rothe (1951) questionnaire. **Part IV** contains demographic and work contextual items relating to quality of care, floating and overtime, RN characteristics, credentials, and job plans. **Part V** contains optional items being tested for possible inclusion in the 2004 survey.

#### Part I: Selected Individual-level Items

*Response options: strongly agree, agree, tend to agree, tend to disagree, disagree, strongly disagree.*

1. My present salary is satisfactory.
2. Physicians at this hospital generally appreciate what I do.
3. There is ample opportunity for me to participate in the administrative decision-making process.
4. I have sufficient time for direct patient care.
5. I need more autonomy in my daily practice.
6. There is a good deal of teamwork between my coworkers and me.
7. I am satisfied with the status of nursing in the hospital.
8. I am fairly well satisfied with my job.

#### Part II: NDNQI-Adapted Index of Work Satisfaction

*Nurses with whom I work would say that:*

*Response options: strongly agree, agree, tend to agree, tend to disagree, disagree, strongly disagree.*

#### **Task:**

1. They are satisfied with the nursing care they provide to patients.
2. They could do a better job if they did not have so much to do all the time.
3. They have plenty of time to discuss patient care problems with other nursing service personnel.
4. They have sufficient time for direct patient care.
5. They have plenty of opportunity to discuss patient-care problems with other nursing service personnel.
6. They could deliver much better patient care if they had more time with each patient.

**Nurse-Nurse Interaction:**

1. Nursing personnel pitch in and help each other when things get in a rush.
2. It is hard for new nurses to feel "at home" on the unit.
3. There is a good deal of teamwork among nursing personnel.
4. They are satisfied with the interactions among the nursing staff.
5. Nursing personnel are not as friendly and outgoing as they would like.
6. The nurses on our unit support each other.

**Nurse-Physician Interaction:**

1. Physicians in general cooperate with nursing staff.
2. They are not satisfied with their interactions with hospital physicians.
3. There is a lot of teamwork between nurses and doctors on our unit.
4. Physicians at this hospital look down too much on the nursing staff.
5. Physicians respect the skill and knowledge of the nursing staff.
6. Physicians at this hospital generally appreciate what the nursing staff do.

**Decision-Making:**

1. There is ample opportunity for nursing staff to participate in the administrative decision-making process.
2. Administrative decisions at this hospital interfere too much with patient care.
3. They are not satisfied with their participation in decision-making for the unit.
4. They have all the voice they want in planning policies and procedures for the unit.
5. Nursing administrators generally consult with the staff on daily problems.
6. They have the freedom in their work to make important decisions.
7. They can count on their supervisors to back them up.

**Autonomy:**

1. They have sufficient input into the program of care for each of their patients.
2. They have too much responsibility and not enough authority.
3. Nurses have a good deal of control over their own work.
4. They are frustrated sometimes because their activities seem programmed for them.
5. They are required sometimes to do things on the job that are against their better professional judgment.
6. Nurses need more autonomy in their daily practice.
7. They are free to adjust their daily practice to fit patient needs.

**Professional Status:**

1. Staff in other departments appreciate nursing.
2. They are proud to talk to other people about what they do on the job.
3. They are satisfied with the status of nursing in the hospital.
4. Patients (family members) acknowledge nursing's contribution to their care.
5. They recommend this hospital to others as a good place for nurses to work.
6. Their work contributes to a sense of personal achievement.

**Pay:**

1. Their present salary is satisfactory.
2. A lot of nursing personnel at this hospital are dissatisfied with their pay.
3. The pay they get is reasonable, considering what is expected of nursing service personnel at this hospital.
4. The latest salary increases for nursing service personnel at this hospital are unsatisfactory.
5. They are being paid fairly compared to what they hear about nursing personnel at other hospitals.
6. An upgrading of pay schedules for nursing personnel is needed at this hospital.

### ***Part III: NDNQI-Adapted Job Enjoyment Scale***

*Nurses with whom I work would say that they:*

*Response options: strongly agree, agree, tend to agree, tend to disagree, disagree, strongly disagree.*

1. Are fairly well satisfied with their jobs.
2. Would not consider taking another job.
3. Have to force themselves to come to work much of the time.
4. Are enthusiastic about their work almost every day.
5. Like their jobs better than the average worker does.
6. Feel that each day on their job will never end.
7. Find real enjoyment in their work.

### **Part IV: Demographic and Contextual Items**

#### **Quality of Care:**

1. How would you describe the quality of nursing care for your unit on the last shift you worked?

*Response options: excellent, good, fair, poor*

2. In general, how would you describe the quality of nursing care delivered to patients on your unit?

*Response options: excellent, good, fair, poor*

3. Overall, over the past year what has happened with the quality of patient care on your unit?

*Response options: improved, remained the same, deteriorated*

Think about the last shift that you worked. Did any of the following situations occur?

*Response options: yes, no, not applicable.*

4. I had enough help to lift or move patients.
5. I didn't have enough time to document care.
6. I had enough time to spend with each patient.
7. Inadequate staffing either prevented or resulted in patient admissions, transfers, or discharges.
8. Discharged patients (or their caregivers) were prepared adequately for home care.
9. Some important things just didn't get done for patients.
10. Overall, I had a good day.

#### **Floating and Overtime:**

1. Over the last 2 weeks that you worked, how many hours did you work on a unit other than your permanently assigned unit?

*Response options: not assigned to a specific unit, 0-only worked on my regular unit, less than 8 hours, 8-16 hours, more than 16 hours.*

2. Think about the last time you worked extra hours or overtime. Why did you work the extra time? Choose one response.

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*Response options: I have not worked extra recently, I wanted the extra money, the unit was busy and I wanted to help, the unit was short-staffed and I wanted to help, I felt pressured by other staff, I was required to work by my manager or a supervisor, other.*

3. Over the past year, what has happened about the amount of overtime needed from RNs on your unit?

*Response options: increased, remained the same, decreased, don't know.*

#### **RN Characteristics:**

1. What is your gender?
2. Do you work full-time or part-time (part-time  $\leq$  35 hours per week)?
3. What is your role?

*Response options: staff nurse, clinical nurse specialist, case manager, nurse practitioner, other*

4. What is your age?
5. How many years have you worked as an RN?
6. How many years have you been employed as an RN on your current unit?
7. To which racial/ethnic category do you belong (check the one best answer)?

*Response options: Asian, Black or African American, Hispanic/Latina(o), White/Non-Hispanic, Other*

#### **RN Holding Selected Credentials:**

1. Are you currently certified for specialty practice by the American Nurses Association or a national nursing specialty organization? (Do not include American Heart Association competencies, such as CPR, ACLS, or PALS, and do not include internal hospital certifications.)

*Response options: yes, no*

2. What is your highest level of nursing education?

*Response options: diploma, associate degree, baccalaureate degree, masters degree, doctorate degree.*

3. What is your highest level of education other than nursing?

*Response options: no degree other than nursing, associate degree, baccalaureate degree, masters degree, doctorate degree.*

#### **Job Plans for Next Year:**

1. What are your job plans for the next year?

*Response options: Stay in my current position, stay in direct patient care but in another unit in this hospital, stay in direct patient care but outside this hospital, leave direct patient care but stay in the nursing profession, leave the nursing profession for another career, retire.*

### **Scoring Guide**

Parts I-III contain both positive and negative items. Items are scored so that the highest score represents the most satisfaction. For example, a positive item such as "Staff in other departments appreciate nursing" is scored with strongly disagree as 1 and strongly agree as 6. A negatively worded item such as "They could deliver much better patient care if they had more time with each patient" is scored with strongly agree as 1 and strongly disagree as 6.

A modified standard t-score transformation is used to facilitate interpretation and comparison across Parts I-III. First, the average item score is calculated as the score for each subscale. The T-score transformation is based on the midpoint of the response continuum (3.5). The midpoint is represented by the score 50, and the standard deviation is 10. Scores are interpreted as follows: < 40 = low satisfaction; 40-60 = moderate satisfaction; and >60 = high satisfaction. The data are then aggregated to the unit level. The data reported represent unit T-scores.

Items in Part IV are scored separately and no scales are created. First, the appropriate summary statistic for each item is calculated (e.g., mean or percent) for all individual respondents. Then, the data are aggregated to the unit level. The data reported represent unit averages or percents.

### **References**

- Brayfield, A., & Rothe, H. (1951). An index of job satisfaction. *Journal of Applied Psychology*, 35, 307-311.
- Stamps, P. (1997). *Nurses and work satisfaction: An index for measurement*. Chicago: Health Administration Press.

